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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,494	04/06/2001	Robert Peter Crowley	ROC920000330US1	5749

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EXAMINER

KENNEDY, LESA M

ART UNIT	PAPER NUMBER
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2151

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p>09/827,494</p>	<p>Applicant(s)</p> <p>CROWLEY ET AL.</p>	
	<p>Examiner</p> <p>Lesa Kennedy</p>	<p>Art Unit</p> <p>2151</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. This action is responsive to the application filed on April 6, 2001. Claims 1-25 are pending examination. Claims 1-25 are directed towards a method and system for directing requests to storage devices connected to a server system.

Drawings

2. The drawings are objected to under 37 CFR 1.84(o) because some of the items in Figure 1 do not have descriptive labels (e.g. 110 and 130 in Fig. 1A). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The abstract of the disclosure is objected to because it does not describe the subject matter of the dependent claims. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-3, 5-12, 14-21 and 23-25 are rejected under 35 U.S.C. 102(a) as being anticipated by Padovano (U.S. Pub. No. 2002/0156984).

As to claim 1, Padovano teaches a method for controlling a plurality of devices connected to a host system, comprising:

receiving, by an input/output processor (IOP) on a network server system, a device request from a network server operating system [par. 0090; Padovano discloses that a storage appliance (network server system IOP) receives requests from hosts (network server system operating systems)];

determining to which one of the plurality of devices is the device request directed [par.0090; Padovano discloses that the storage appliance (IOP) processes and sends the request to the applicable storage device];

creating a host system request for the one of the plurality of devices [par.0090; Padovano discloses that the storage appliance (IOP) processes and sends the request to the applicable storage device]; and

sending the host system request to an IOP of the host system [par.0090; Padovano discloses that the storage appliance (IOP) processes and sends the request to the applicable storage device].

As to claim 2, Padovano teaches the method of claim 1 wherein the IOP on the network server system includes a device driver for receiving the device request and determining to which one of the plurality of devices is the device request directed [par.0090; Padovano discloses that the storage appliance (IOP) includes a SAN server (device driver) for processing and sending the request to the applicable storage device].

As to claim 3, Padovano teaches the method of claim 1 wherein the device request is a Small Computer System Interface (SCSI) request directed to a storage device connected to a SCSI bus of host system [par. 0085; Padovano discloses that the storage appliance (IOP) communicates with the storage devices over SCSI links].

As to claim 5, Padovano teaches the method of claim 1 wherein the plurality of devices include one or more storage devices selected from the group consisting of a direct access storage device (DASD), an optical drive, and a tape drive [pg. 7, par. 0084].

As to claim 6, Padovano teaches the method of claim 5 wherein the device driver is configured to create host system requests for each type of storage devices connected to the host system [pg. 7, par. 0084; par. 0090; Padovano discloses that the SAN server (device driver) processes and sends requests to different types of storage devices].

As to claim 7, Padovano teaches the method of claim 5, further comprising: executing the host system request on the one or more storage devices [par. 0090; Padovano discloses that storage devices process the received requests].

As to claim 8, Padovano teaches the method of claim 5 wherein the device request is directed to a virtual storage space defined on one or more storage devices [par. 0072-0073, 0090; Padovano discloses that the storage appliance (network server system IOP) handles virtual storage requests].

As to claim 9, Padovano teaches the method of claim 8 further comprising: executing the host system request on a virtual storage space defined on the one or more storage devices [par. 0072-0073, 0090; Padovano discloses that the storage appliance (network server system IOP) handles virtual storage requests].

Claims 10-12 and 14-18 represent computer medium claims that correspond to method claims 1-3 and 5-9, respectively. They do not teach or define any new limitations above claims 1-3 and 5-9, and therefore are rejected for similar reasons.

Claims 19-21 and 23-25 represent method claims that correspond to method claims 3 and 5-9, respectively. They do not teach or define any new limitations above claims 3 and 5-9, and therefore are rejected for similar reasons.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4, 13 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Padovano in view of Napolitano et al. (U.S. Patent No. 6,301,605).

As to claim 4, Padovano teaches the invention substantially as claimed (see rejection of claim 1 above).

Padovano does not expressly teach the limitation wherein the host system request is a direct memory access (DMA) request.

However, Napolitano teaches of a storage architecture in which a host computer (network server system) is coupled to a storage adapter (host system). Napolitano teaches the limitation wherein the host system request is a direct memory access (DMA) request [col. 6, lines 9-12; Napolitano discloses that the adapter (host system) executes DMA operations with the host computer (network server system)].

Padovano and Napolitano are analogous art because they relate to management of storage devices.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Padovano in view of Napolitano so as to transfer data directly to and from the network server system memory. One would be motivated to do so to eliminate the need for the network server system CPU to participate in the data transfer [Napolitano; col. 6, lines 12-16].

Claim 13 represents a computer medium claim that corresponds to method claim 4. It does not teach or define any new limitations above claim 4, and therefore is rejected for similar reasons.

Claim 22 represents a method claim that corresponds to method claim 4. It does not teach or define any new limitations above claim 4, and therefore is rejected for similar reasons.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lesa Kennedy whose telephone number is (703) 305-8865. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Andrew Caldwell
Andrew Caldwell